



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO..
10/624,705	07/21/2003	Mark Ronald Plesko	3382-65536	7062
26119	7590	04/06/2007	EXAMINER	
KLARQUIST SPARKMAN LLP 121 S.W. SALMON STREET SUITE 1600 PORTLAND, OR 97204			PHAM, CHRYSTINE	
			ART UNIT	PAPER NUMBER
			2192	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	04/06/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/624,705	PLESKO ET AL.
	Examiner Chrystine Pham	Art Unit 2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 January 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 3-39 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/09/2007 &amp; 03/01/2007</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This action is responsive to Amendments filed on January 9, 2007. Claims 1, 20, 22, 24-26 and 36-39 have been amended. Claim 2 has been canceled. Claims 1 and 3-39 are presented for examination.

#### ***Response to Amendment***

2. In view of the amendment to claims 1, 20 and 36 to overcome claim rejections under 35 USC 101, the rejection of claims 1, 20-28 and 3-19 under 35 USC 101 is hereby withdrawn.

#### ***Response to Arguments***

3. Applicant's arguments filed January 9, 2007 have been fully considered but they are not persuasive.

Applicants essentially argue, "*Motoyama's description of objects and general object interactions does not teach 'instantiating one or more objects of one or more of the sub-classes of the hierarchy wherein the one or more sub-classes represent classifications of types'* as recited in claim 1" (Emphasis added)(Remarks, pages 10-12). More specifically, Applicants argue that Motoyama's Derived Class 1 and Derived Class 2 (i.e., sub-classes in a class hierarchy) do not represent type classifications (Remarks, page 12, 2<sup>nd</sup> full paragraph) yet admit that they (i.e., sub-classes) 'define particular data structures'. Thus, Applicants appear to suggest that Motoyama's data structures

do not have and/or are not *types* and that a definition of a data structure (i.e., the act of defining a data structure via a object-oriented class) is distinguished from the claimed "representation of types using sub-classes". The Examiner strongly and respectfully disagrees.

First, it has been noted that the specification (page 3, last paragraph) defines representing type information (i.e., **variables**, **containers**, **functions**) using objects of classes in a class hierarchy. The same paragraph specifically reads, "sub-classes in the hierarchy can represent classifications of types". Since FIG.2A of Motoyama discloses the Derived Class 1 (i.e., sub-class) defined as having variable (i.e., type information) 18 (namely *int var1*) and function (i.e., type information) setVar1(int) 20 while Derived Class 2 (i.e., another sub-class) defined (i.e., classified) as having variables (i.e., type information) 22 and 24 (which are different from variable 18 of Derived Class 1) and functions (i.e., type information) setVar2(int) and setVar3(int). Needless to say, each of the class variables var1, var2 and var3 is a representation of its own type information, or more specifically, type *int variable*. Furthermore, each of the class functions setVar1(int), setVar2(int) and setVar3(int) is a representation of its own type information, or more specifically, type **function**. Moreover, classes Derived Class 1 and Derived Class 2 represent two distinguished data structures or data types, each of which has its own type, Derived Class 1 and Derived Class 2, respectively. Since these data structures are defined (i.e., classified) as containing different variables (i.e., type informations) and functions for accessing

Art Unit: 2192

said variables, there is no question that each of these classes (i.e., data structures or data types) represent and/or is container, i.e., of type **container**, which represents type informations (i.e., class variables and class functions) as much an 'Enumeration Type', an Array, or a List is a data structure (i.e., data type) representing type information. Thus, contrary to Applicants' argument, Motoyama clearly teaches "a plurality of sub-classes for representing different type classifications".

4. In view of the foregoing discussion, rejection of claims under 35 U.S.C. 102(e) is deemed proper and maintained.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Motoyama et al. (US 6578090 B1, "Motoyama").

Claim 1

Motoyama teaches a method of representing type information via objects of classes in a class hierarchy, wherein the class hierarchy comprises at least one class and a plurality of sub-classes for representing different type classifications (see at least col.3:1-55), the method comprising: instantiating one or more objects of one or more of the sub-classes of the hierarchy, wherein the one or more sub-classes represent classifications of types (see at least FIG.2A & associated text; 62, 64 FIG.4 & associated text); and storing information in the one or more objects (see at least 120, 112 FIG.6 & associated text) wherein the one or more objects represent type information of a variable in software during compilation of the software (see at least col.2:30-60)..

### Claim 3

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the objects comprises information for a size of a type represented by the object (see at least col.3:1-10).

### Claim 4

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes inherits from an abstract type that wraps an externally defined type, the abstract type providing a mapping from a typed intermediate language to original source code (see at least col.3:10-28; 6 FIG.2A).

### Claim 5

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents container types (see at least FIG.10 & associated text; col.2:5-18; col.3:1-28).

Claim 6

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents pointer types (see at least 54, 55 FIG.2B & associated text).

Claim 7

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents function types (see at least FIG.2A & associated text; col.10:20-37).

Claim 8

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents unmanaged array types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 9

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents class types (see at least col.1:53-

Art Unit: 2192

67; col.24:53-col.25:5; col.10:38-48).

Claim 10

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents managed array types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 11

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents struct types (see at least FIG.2A & associated text; col.10:20-37).

Claim 12

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents interface types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 13

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents enumerated types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 14

The rejection of base claim 1 is incorporated. Motoyama further teaches wherein at least one of the one or more sub-classes represents primitive types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 15

The rejection of base claim 14 is incorporated. Motoyama further teaches wherein at least one of the sub-classes representing primitive types represents the following types: int, float, and void (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 16

The rejection of base claim 14 is incorporated. Motoyama further teaches wherein at least one of the sub-classes representing primitive types can represent an unknown type (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claim 17

The rejection of base claim 14 is incorporated. Motoyama further teaches wherein at least one of the sub-classes representing primitive types is extensible to represent one or more additional primitive types (see at least col.1:53-67; col.24:53-col.25:5; col.10:38-48).

Claims 18-39

Claims recite limitations, which have been addressed in claims 1-17, therefore, are rejected for the same reasons as cited in claims 1-17.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chrystine Pham whose telephone number is 571-272-3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TUAN DAM  
SUPERVISORY PATENT EXAMINER